

King County Environmental Purchasing 2004 Annual Report



King County

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Executive Summary

King County Environmental Purchasing Program 2004 Annual Report

The King County Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country. The Program provides County personnel with information and technical assistance to help them identify and evaluate economical and effective recycled and other environmentally preferable products.

In the past year and a half, (July, 2003 – December, 2004) King County purchased **17.7 million dollars** worth of environmentally preferable products, **saving \$950,000** compared to the cost of the products conventionally purchased. Environmentally preferable products include those that contain recycled material, reduce waste, save energy, are less toxic, or are more durable. This report reflects eighteen months of data because the reporting period was changed to a calendar-year, where it had been on a July-June cycle. In 2005, the report will reflect the twelve months of data for that year.

The King County Recycled Product Procurement Policy, adopted in 1989, directed County agencies to purchase recycled materials "whenever practicable." In 1995, the goals of Executive Policy were extended to include other environmentally preferable materials and processes. Implementation of this policy relies on the judgment of the people who use the products in their work. The goal established in ordinance is the purchase of environmentally preferable materials "whenever practicable," a goal of 100% of what is realistic. The program enables agencies to use their professional judgment to evaluate and adopt new opportunities as they are identified.

In recognition of these efforts, King County has earned awards and accolades from the White House Office of the Federal Environmental Executive (OFEE), U.S. Environmental Protection Agency (EPA), National Association of Counties (NACo), the National Recycling Coalition (NRC), US Conference of Mayors, and Sustainable Seattle. In the past year and a half, the program helped King County earn the 2003 "Local Government Partner of the Year" and the 2004 "Hall of Fame" awards from EPA's WasteWise Program. Program staff also participated in a "Green Purchasing" statewide videoconference and national webcast in Harrisburg Pennsylvania in 2004 hosted by the State of Pennsylvania Department of Environmental Protection and the Professional Recyclers of Pennsylvania.

The program assembles data on the purchases of County agencies and produces an annual report to the County Council and the community on the status of policy implementation and the environmental purchasing accomplishments of agencies. In the 2004 reporting period, recycled paper represented over 98% of County paper purchases, totaling 4 million dollars. Recycled paper is used for all major government functions, including more than nine million bus schedules annually, tax statements, court forms, pet license notifications, business cards, reports, stationery, and internal printing.

King County purchases many other recycled and environmentally preferable products, including remanufactured toner cartridges, re-refined antifreeze and motor-oil used by all County vehicles, including the fleet of 1,200 Metro buses-one of the largest in the nation, low-VOC asphalt cold-patch compound, plastic lumber, compost, shredded wood-waste, tire-retreading services, hybrid vehicles, biodiesel and bio-based oil. Many of these products are more economical than those they replace, and the County saved almost one million dollars by their purchase in 2004.

Program success depends on enabling agencies to appreciate the new opportunities being created in a changing marketplace by supporting them with information and technical assistance. In addition to producing educational seminars on specific opportunities, the program makes extensive use of the Internet. It uses email to distribute an "Environmental Purchasing Bulletin" to agency liaisons and maintains a website (www.metrokc.gov/procure/green) to make information available to agencies, suburban cities, and the community at-large on the environmental purchasing experience of County agencies.



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www.metrokc.gov/procure/green

2004 Annual Report

I. King County Environmental Purchasing Program.....	1
The Policy	
The Program	
Implementation	
The Challenges	
The Opportunities	
II. Purchases and Savings.....	5
Purchase Summary	
Purchase Detail	
Office Products	
Operations and Maintenance	
Vehicular	
Savings Summary	
III. Supporting Program Elements.....	14
Agency Liaison Network	
Internet Information Project	
Website	
E-mail Environmental Purchasing Bulletin	
Internet Discussion Groups	
Public Involvement	
Publicity	
Model Procurement Policy	
Allied King County Programs	
IV. Environmental Initiatives of County Agencies.....	21
Green Building	
Waste Reduction and Recycling	
Air Quality	
Energy and Water Conservation	



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I. King County Environmental Purchasing Program

This report summarizes the achievements of King County agencies from July, 2003 through December 31, 2004, in their implementation of the King County Environmental Purchasing Policy. This report reflects eighteen months of data because the reporting period was changed in 2004 to a calendar-year, where it had been on a July-June cycle. In 2005, the report will reflect the twelve months of data for that year.

In the past year and a half, King County agencies continued to increase their awareness and use of environmentally preferable products. Municipalities in King County and across the nation continue to seek advice from the Environmental Purchasing program to learn from our experience. For these efforts and others, the program helped King County earn the 2003 Local Government “Partner of the Year” and the 2004 “Hall of Fame” awards from the US Environmental Protection Agency’s WasteWise Program. This recognition led to the participation of program staff in a “Green Purchasing” statewide videoconference and national webcast in Harrisburg Pennsylvania in 2004, hosted by the State of Pennsylvania Department of Environmental Protection and the Professional Recyclers of Pennsylvania.

King County is maintaining this position of leadership through the efforts and accomplishments of County employees who are actively pursuing ways to use economical, environmentally preferable materials in new applications. This includes interaction with vendors to promote the development of viable and economical environmental products.

The Policy

The County’s Environmental Purchasing Policy reflects a long-term commitment to the purchase of “environmentally preferable*” materials. King County adopted its original Recycled Product Procurement Policy [King County Code (K.C.C.) Chapter 10.16, Executive Policy CON 7-1-1 AEP] in 1989. This policy directed County agencies to purchase recycled products "whenever practicable," a goal of 100% of what is realistic.

In 1995, the County revised and streamlined this Executive Policy (CON 7-1-2–AEP www.metrokc.gov/procure/green/policy.htm) to reflect the experience of five years of implementation by King County agencies. The revised policy requires County agencies to purchase recycled and other environmentally preferable products whenever practicable and expands the commitment of agencies to the purchase of materials with lower toxicity, and greater conservation of energy, water, and other resources.

In 2003, the County adopted an updated ordinance that reflects these policy changes, and these updates are seen in K.C.C. Chapter 10.16 www.metrokc.gov/MKCC/code/13-Title%2010.pdf.

*King County defines “environmentally preferable” as having a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

The Program

The Environmental Purchasing Program aims to fundamentally change the procurement practices of the 17,000 employees of King County. With the full participation of the people in the agencies who make purchasing decisions, the County can attain its goal of buying recycled and other environmentally preferable products whenever practicable. The program provides County personnel with information and technical assistance to help them identify economical and effective recycled and environmentally preferable products and maintain contracts for their purchase. The program helps agencies understand policy requirements and communicates specifications, contracts, and other practical information between County agencies, vendors, users, and other jurisdictions.

The program's collaborative approach, which relies on the expertise of County employees to evaluate procurement opportunities and revise procedures, is gradually changing the way agencies view these opportunities. County agencies have responded by developing new ways to use recycled and other environmentally preferable products, especially where these will reduce costs while still meeting performance standards.

Implementation

The **Procurement and Contract Services Section** of the King County **Finance and Business Operations Division** administers the **Environmental Purchasing Program** to help County agencies increase their purchase of environmentally preferable products. The program:

- researches recycled and other environmentally preferable products, applications, and vendors and communicates this information to agencies to help them make environmentally mindful purchasing decisions;
- encourages agencies to evaluate new products, assists in development of specifications and contracts, and disseminates evaluation results to County agencies and others;
- maintains an Internet website and produces an e-mail bulletin to provide users with information about the performance, cost, and availability of recycled and environmentally preferable materials, and about policy development and implementation strategies;
- reviews policy requirements with agencies and monitors the status of policy implementation;
- prepares this annual report of the King County Environmental Purchasing Program for the County Council, County agencies, suburban cities, other jurisdictions, and the community, to promote the exchange of information between personnel in County agencies and their counterparts in other organizations;
- coordinates development and implementation of policy models and procurement guidelines and recommends revisions to County policy;

- provides technical support to the outreach programs of the Department of Natural Resources and Parks to facilitate the implementation of policies favoring recycled and environmentally preferable procurement by suburban cities in King County;
- ensures that contracts issued by the County require recycled and environmentally preferable components whenever practicable and that contractors provide certification of this content and report amounts purchased;
- assembles and disseminates evaluation results and reports of environmental purchases by agencies and their contractors; and
- represents the environmental purchasing accomplishments and policies of King County to other jurisdictions.

The Challenges

A number of factors challenge efforts to increase environmental purchasing:

- project managers, designers, and contractors are often not familiar with the use of many recycled and other environmentally preferable products and are uncertain of the ways in which they might be effectively specified and applied as substitutes for familiar products;
- developers of environmentally preferable products are often in the early stages of identifying the needs of potential customers and establishing the production, marketing, and distribution capacity to meet them;
- the use of environmentally preferable products must be economically responsible, cost competitive, and effective;
- many products must meet rigorous standards maintained by governmental and industry regulators and the modification of these standards is a painstaking, slow, and expensive process. As these standards and specifications are often still under development, manufacturers, regulators, and users may not be equipped to deal with new materials effectively;
- developing and administering data-collection procedures to obtain information from construction and other service contracts is time-consuming and places unfamiliar demands on participants, which can be costly; and
- agencies are still learning to balance competing claims of environmental preferability. The specifier must decide, case-by-case, how much weight to give recycled content, how much to give low toxicity, how to balance recyclability against energy efficiency and how to prioritize the many other elements of environmental preferability. Trade associations and government regulators are developing standards and specifications to clarify these issues and King County agencies are monitoring these developments and participating where they are able.

The Opportunities

The Program and County agencies are addressing these challenges by:

- maintaining liaisons between agencies and the Environmental Purchasing Program to facilitate policy implementation, purchases, and data collection;
- assembling detailed application information and performance data from product users and manufacturers and disseminating this to potential users in the County;
- seeking new applications for recycled and other environmentally preferable products and encouraging supply and contract managers to specify them whenever possible;
- helping agencies develop specifications and contracts for environmentally preferable products whenever evaluations establish that product performance and cost are acceptable;
- evaluating environmentally preferable product performance in new applications through testing and pilot programs and sharing the results with agencies, jurisdictions, and other users through our website, the email “Environmental Purchasing Bulletin,” and by other means;
- helping potential suppliers obtain feedback from users to assist them in product development and helping them understand King County procurement processes; and
- expanding our communication network so we can share information about our experiences with other organizations and the community.

II. Purchases & Savings

Purchase Summary

In the past year and a half, King County **purchased 17.7 million dollars** worth of environmentally preferable products, **saving \$950,000** by doing so. Environmentally preferable products include those that have recycled content, reduce waste, use less energy, are less toxic, or are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country due, in part, to our emphasis on cost-effective products.

The tables below summarize environmentally preferable product purchases for the 2004 reporting year (July, 2003 – December, 2004). This data is obtained primarily from “term” supply contracts, which require vendors to report purchases to the Environmental Purchasing Program. Term supply contracts are centrally administered and enable County agencies to purchase materials at low and consistent prices. The tables also include data from one-time purchases. Details of purchases and product performance follow in the “Purchase Detail” section on page six of this report.

2004 Purchases

Office Products	Per	Units	\$
Copy and Bond Paper	Cases	32,402	991,069
Printing Paper	n/a	N/A	2,148,834
Paper Products	n/a	N/A	905,245
Toner Cartridges	Each	7,632	298,403
Electronics Recycling	n/a	N/A	13,211
Can Liners	Case	11,170	185,224
Sub-Total:	N/A	N/A	4,541,986

Operations and Maintenance	Per	Units	\$
Asphalt Cold Patch	Ton	46	20,174
Compost	Yard	10,679	266,975
Shredded Wood	Yard	76,325	34,304
Fluorescent Lamp Recycling	n/a	n/a	22,791
Hydrostripping Services	n/a	n/a	1,100
Sub-Total:	N/A	N/A	345,344

Vehicular	Per	Units	\$
Motor Oil	Gallon	152,542	393,598
Antifreeze	Gallon	30,277	80,372
Bio-based Lubricants	Gallon	1,760	26,312
Biodiesel (B100)*	Gallon	24,465	72,733
Ultra-Low Sulfur Diesel**	Gallon	7,071,239	10,440,669
Flexible Fuel Vehicles	Each	55	935,164
Hybrid Vehicles	Each	24	511,044
Tire Retreading	n/a	n/a	339,382
Air Filters	Each	n/a	2,038
Sub-Total:	N/A	N/A	12,801,312

Purchase Totals	Per	Units	\$
Total Dollars:	N/A	N/A	17,688,642

*2 months of data, pilot program

** 8 months of data, data not previously reported in annual report

Purchase Detail - Office Products

Copy and Bond Paper

County agencies purchase recycled non-chlorine bleached copy paper with 30% post-consumer content. The post-consumer level meets the Federal Environmental Protection Agency's (EPA) Comprehensive Procurement Guidelines (CPG) established by Federal Executive Order 13101. County purchases of recycled paper totaled over **32,000 cases** at a cost of **\$990,000** in the last year and a half, which represents **99%** of total copy paper purchases.

Printing Paper

Printing performed by the **County Printshop** and through contracts administered by **Procurement Services Section** is required to use recycled paper whenever practicable, which is over 90% of the time. This includes all printing, from business cards to tax and court forms, reports and bus timetables. The recycled content of this paper varies from 20% to 100%. During 2004, estimated recycled paper expenditures, exclusive of printing costs, totaled **over 2 million dollars**.

Paper Products

Beyond recycled copy and printing papers, the County also maintains several contracts that allow agencies to purchase various recycled paper products. These include office supplies, such as envelopes, boxes, folders and notepads; and janitorial products, such as paper towels and tissues. **97%** of these purchases included recycled content in 2004, and purchases exceeded **\$900,000**.

Toner Cartridges

Remanufactured toner cartridges for laser printers have been purchased by King County since 1991. Cartridges supplied under this contract must meet original equipment manufacturer's (OEM) standards and provide full performance guarantees. In 2004, the County purchased over **7,500 cartridges**, at a cost of **approximately \$300,000**. These purchases **saved** an estimated **\$450,000**, as the cost of these remanufactured cartridges is less than half the cost of new cartridges. Spent cartridges are remanufactured and all components are recycled when their useful life is over, reducing the landfill disposal of hazardous material. The current contract was awarded in 2004 to a new vendor after thirteen years of service from the previous supplier. It includes ink-jet cartridges, fax and other toner cartridges, all at significant cost-savings. For more information, visit the program website at: www.metrokc.gov/procure/green/tonecart.htm.

Electronics Recycling

There is growing concern about the ultimate effects of landfill or incineration of computers and electronics, which contain a wide variety of heavy metals and other toxins. Of special concern are cathode ray tubes (CRTs), which are no longer accepted at the King County landfill, because they contain large amounts of lead (often 4 or 5 pounds each). Since 2002, King County has been recycling obsolete computers, TV's and other electronic equipment through a competitively bid contract with a local recycling firm.

During the reporting period, **agencies recycled over 350 computer monitors, 173 televisions, 9,800 pounds** of other electronic equipment and **over 3,000 pounds** of batteries of various types. Agencies using this environmentally preferable recycling service, instead of disposal into the municipal waste stream, included **Property Surplus, Department of Community and Development, Records and Elections, Finance, Facilities, Roads Environmental Labs, Cedar Hills Landfill, Department of Natural Resources and Parks, E-911, Sheriff's Office and Metro Transit**. For more information and contract specifications, please visit the program website at: www.metrokc.gov/procure/green/electronics.htm.

Can-Liners

In 2004, King County purchased over **11,000 cases** of can-liners at a cost of over **\$185,000**. These were made with 25%-30% high-density polyethylene (HDPE) or 25% low-density polyethylene (LDPE) recycled post-consumer plastic. County agencies have used recycled plastic bags from various vendors with good results since 1991. When the contract was initiated, only one vendor responded with recycled content, but the opportunity of the County contract encouraged other vendors to develop the capacity to use recycled plastic in production of these bags. For more information, visit the program website at: www.metrokc.gov/procure/green/plasbags.htm.

Purchase Detail – Operations and Maintenance

Asphalt Cold Patch

The King County **Roads Maintenance Section** has been purchasing an asphalt cold patch product that reduces the amount of Volatile Organic Compounds (VOCs) released to the environment since 2001. This product is a dry, odorless, ready-to-use asphalt-based compound used to repair potholes, cracks, and other defects in paved surfaces. It contains **75% post-consumer asphalt** and works by compaction. Traditional cold patch hardens through a combination of compaction and evaporation of a petroleum-based carrier, such as kerosene. This evaporation releases large amounts of VOCs, which are not present in this product. It can also be used in all weather and can be overlaid with new asphalt without the special steps needed to overlay conventional patching compounds with new paving. In the past year, King County **Roads** purchased over **1,800 fifty-pound bags**, approximately **46 tons**, of this product, at a cost of over **\$20,000**. For more information, visit the program website at: www.metrokc.gov/procure/green/bul65.htm.

Compost

Compost-amended topsoil is specified for use in maintenance and construction projects. The **Roads Environmental Unit** reported that in the past year, their contractors used over **10,500 cubic yards** of topsoil containing compost, derived from both yard waste and biosolids. Further information about the use of compost by County agencies is available on the program website at: www.metrokc.gov/procure/green/compost.htm.

Fluorescent Lamp Recycling

Alternatives to landfill disposal of fluorescent lamps are becoming more important, as federal, state, and local regulation of mercury disposal is increasing, because these often contain significant amounts of mercury and other toxic materials. In the year 2000, King County established a contract for recycling waste lamps, including fluorescent tubes and high-intensity discharge (HID) lamps. In the past year, **Airport, Roads, Solid Waste, Facilities Management and Transit Divisions**, the **Department of Natural Resources and Parks**, the **Department of Transportation**, and the **Environmental lab** used this contract to recycle various types of lamps, including **almost 30,000** straight fluorescent tubes, **almost 3,000** compact fluorescent lamps, and **over 4,600** HID lamps. For more information regarding King County's program to recycle lamps, including regulations, visit the website at: www.metrokc.gov/procure/green/bul60.htm.

In addition to lamps, ballasts can be recycled. The primary concern regarding the disposal of used fluorescent ballasts is the health risk associated with polychlorinated biphenyls (PCBs). All ballasts manufactured through 1979 contain PCBs, which were banned in that year. In 2004, a retrofit project managed by **Metro Transit**, resulted in the recycling of almost **14,000 pounds of ballasts**; a little over half of these containing PCBs.

Hydrostripping Services

At the end of 2000, the King County **Traffic Maintenance Unit** created a pilot program for hydrostripping damaged aluminum signs, and established a contract for these services in 2001. Hydrostripping uses high-pressure water to remove paint and laminate from signs, and the water is re-used to minimize environmental impact. Because it costs half as much to refurbish the sign as it does to purchase new aluminum sign blanks, the County **saved approximately \$1100** during the reporting period. Although this contract was created to save a significant amount of money, unanticipated labor cost required to sort the signs have caused the Traffic Section to reduce the use of this contract. The County continues to use this service, though not in the quantity originally estimated. For more information, visit the program website: www.metrokc.gov/procure/green/bul69.htm.

Plastic Lumber

The **Renton Maintenance Facility** of the **Fleet Administration Division** requires new dump trucks to be outfitted with recycled plastic sideboards before delivery. High-quality old growth Douglas-fir had been conventionally used in this application, but it is increasingly scarce and expensive. Since 1996, the Division has been retrofitting all of its trucks with recycled plastic because it is more impact-resistant and needs to be replaced less frequently, saving money in the long-term despite its higher initial cost. Replacement has been reduced from two wooden sideboards per week to less than one plastic sideboard per month which **saves \$10,000 per year** in materials costs alone. For more information, visit the program website at: www.metrokc.gov/procure/green/errlbr.htm.

The **King County Parks and Recreation Division** has used recycled plastic lumber since 1993 for benches, tables and boardwalks. In 2003, they purchased three new recycled plastic benches for the **King County Aquatics Center** in Federal Way, and committed to the purchase of 35 recycled plastic picnic tables in 2005.

Shredded Wood

Wood chips made from shredded land-clearing debris can be used as ground cover for erosion-control, horticultural mulch, and other applications. In the last year, the **Solid Waste Division** used it to stabilize temporary driving surfaces at the **Cedar Hills landfill**, especially during rainy seasons. The Division purchased **76,000 cubic yards** of shredded wood at a cost of nearly **\$35,000 and saved an estimated \$75,000** by using this instead of virgin aggregate. For more information, visit the program website: www.metrokc.gov/procure/green/swhog.htm.

The **Roads Division** uses shredded wood in its road construction and maintenance projects for erosion control and landscaping. In 2003, the Division purchased equipment to shred storm debris, and uses this material for its own projects. Please see the “Environmental Initiatives” section on page 22 of this report for more information.

Purchase Detail - Vehicular

Motor Oil

Motor oil made with re-refined base-stock has been used in County vehicles operated by the **Renton Maintenance Facility**, **Motorpool** and **Solid Waste Operations** since 1992. **Metro Transit** became one of the first major metropolitan transit authorities in the nation to adopt the use of re-refined motor oil for its entire fleet of over 1200 buses in 1999. In 2004, the County purchased over **150,000 gallons** of re-refined oil at a cost of almost **\$400,000**. The bus fleet recently added new hybrid buses and re-refined oil is used in these, as well. For more information, visit the program website at: www.metrokc.gov/procure/green/oil.htm.

Antifreeze

County agencies, including **Motor Pool**, **Solid Waste Operations**, and the **Renton Maintenance Facility** have purchased antifreeze manufactured with re-refined ethylene glycol since 1991. In 1999, the County's **Metro Transit Division** awarded a contract for re-refined concentrated ethylene glycol antifreeze for buses. They introduce the necessary "additive packages" in the maintenance shops. In 2004, the County purchased over **30,000 gallons** of re-refined antifreeze, at a cost of over **\$80,000**, and saved over **\$53,000** by its use. Over **17,000 gallons** of spent antifreeze was returned to the supplier for "closed-loop" re-refining into new antifreeze. For more information about King County's use of antifreeze, visit the program website at: www.metrokc.gov/procure/green/antifrz.htm.

Two new contracts were awarded in 2004 to a different vendor than the previous supplier the County had used for 13 years. This represents another instance in which King County's leadership has promoted the development of new businesses that deal in environmentally preferable materials.

Bio-Based Lubricants

Vegetable-oil-based lubricants are emerging as a high-performance, environmentally friendly alternative to the more commonly purchased petroleum oil lubricants. Users choose bio-based lubricants because they can perform as well or better than petroleum oils, are readily biodegradable, low in toxicity, and offer worker-safety advantages.

Hydraulic oils are of specific concern because they are lost to the environment in the normal course of equipment operation. The **Renton Maintenance Facility** has been using vegetable-based hydraulic oils for their equipment since 2001 to comply with provisions of the Federal Endangered Species Act and other regulations intended to protect our sensitive waterways and groundwater. The agency also specifies that manufacturers fill new equipment with vegetable-based hydraulic fluid. In the past year, they purchased over **1,750 gallons** at a cost of approximately **\$26,000**. For more information, visit the program website: www.metrokc.gov/procure/green/bul59.htm.

Biodiesel

At the end of 2004, King County **Metro Transit** began a pilot program to evaluate using biodiesel, at a mixture of 5% biodiesel (B5) and 95% ultra-low sulfur diesel (ULSD) at two bus bases. Biodiesel is a diesel fuel substitute produced from renewable sources, such as vegetable oils, animal fats and recycled cooking oils. During the last two months of 2004, **Transit** purchased almost **25,000 gallons** of 100% biodiesel (B100) and had the vendor mix this in at a 5% blend to produce approximately 500,000 gallons of B5 fuel. This change resulted in an increased fuel cost of approximately 6.3 cents per gallon. Starting in 2005, **Solid Waste Division** and **Fleet Management** will adopt the use of the B5 fuel and its use will be extended to the rest of the bus bases. Using biodiesel increases demand for alternative fuels here in Washington State. Please see the full story in the "Environmental Initiatives," section on page 23 of this report.

Ultra-Low Sulfur Diesel

King County has been purchasing ultra-low sulfur diesel (ULSD) fuel since 2002. Testing done by King County **Metro Transit** showed that using ULSD, along with particulate filters, can provide a 90% reduction in carbon dioxide and hydrocarbon particulate matter. ULSD has the same energy and performance characteristics as standard diesel, so its use does not affect engine performance or warranties. All King County Fleets purchase ULSD. During the eight months with the new vendor, King County has purchased over **seven million gallons** of fuel at a cost of ten million dollars. Beginning in 2007, the US EPA will require all new diesel equipment to adopt the particulate-filter technology. For more information, visit the program website: www.metrokc.gov/procure/green/ulsd.htm.

Flexible Fuel Vehicles

King County **Fleet Administration Division** purchased **55** flexible-fuel vehicles (FFV), including 16 Ford Explorers, 4 Ford Taurus, 4 Chevy Tahoe and 31 Dodge Stratus, for a total of **\$935,000**. These vehicles are equipped to use ethanol, gasoline, or "E85," the term for fuel blends of 85 percent ethanol and 15 percent gasoline. Using E85 reduces carbon dioxide (CO2), hydrocarbon and benzene emissions when compared to vehicles running on gasoline. The Division acknowledges that regional supply infrastructure may limit the availability of ethanol and E85. All of these vehicles were purchased through the State of Washington Vehicle contract.

Hybrid Vehicles

King County is purchasing hybrid electric vehicles (HEVs) that increase fuel-efficiency and reduce greenhouse gas emissions. Hybrids offer low emission, fuel-efficient, and cost-effective solutions for the County and are replacing older model vehicles as they are retired. The County's **Fleet Administration Division** of the King County **Department of Transportation** purchased **15** Toyota Prius hybrid cars for almost **\$300,000** and **9** newly introduced 2005 Ford Escape hybrid SUVs for **\$215,000** in the past year. The County usually uses the State of Washington's contract to purchase vehicles but issued two invitations-to-bid, for both the new 2005 Ford Escape hybrid SUV's and Toyota Prius, in late 2004. The County has already ordered 9 SUVs and will order 25 Prius early in 2005 from these contracts. These purchases add to the approximately 60 hybrid cars currently in the fleet, purchased since 2001. For more information, see the Environmental Purchasing Bulletin on the program website at: www.metrokc.gov/procure/green/bul66.htm.

Hybrid vehicles are currently manufactured in limited quantities. **King County DOT Fleet Administration** works closely with other jurisdictions and manufacturers, to increase demand for these products. In fact, **Fleet** was selected as the lead agency for a national working-group of public agencies that cooperate to facilitate purchases of hybrid vehicles by jurisdictions.

Hybrid Buses

The **Metro Transit Division** of the King County **Department of Transportation** purchased over 200 hybrid buses in 2004 and expects to save over 350,000 gallons of fuel each year. See the “Environmental Initiatives” section on page 23 of this report for details.

Tire Retreading

The County spent **\$340,000** to retread tires for trucks and other heavy equipment at the **Renton Maintenance Facility, Fleet Division** and the **Cedar Hills Landfill** of the **Solid Waste Division**. Retreading a tire is half the cost of buying a new tire. This not only avoided landfill disposal of tires, but also **saved** the County **approximately \$340,000** in new-tire expense in 2004.

Rubber Truck Decking

King County has been using a recycled rubber/plastic composite product to line equipment trailer decks, and decking on truck beds since 2001. This material replaces exotic hardwoods customarily used for this application. This product performs better than hardwoods or traditional softwoods, it provides a nonskid surface, is durable, and has recycled content. The King County **Fleet Equipment Shop** is satisfied with this material as a replacement decking or on new equipment and now requires new equipment to be delivered with this material already in place. For more information, including the procurement specification for this purchase, visit the program website at: www.metrokc.gov/procure/green/bul90.htm.

Air Filters

In 2002, the **Renton Equipment shops** of the **Department of Transportation** initiated a new program to reduce replacement costs of heavy equipment air filters and reduce the number of used filters being sent to the landfill. The Division has contracted with a local company, to “dry-clean,” the dirty air filters of heavy equipment with a sonic cleaning process. The Division **saved approximately \$2000** in the past year and extended the life of air filters that were previously sent to the landfill. For more information, see the Environmental Purchasing Bulletin on the program website at: www.metrokc.gov/procure/green/bul73.htm.

Savings Summary

In the 2004 reporting period, the County **saved almost one million dollars** by purchasing recycled and other environmentally preferable materials. The Environmental Purchasing Program has helped agencies identify opportunities to purchase environmentally preferable products that not only perform well, but also save money. In some cases, the product simply costs less and in other cases savings are found in installation and maintenance costs. For example: the cost of a remanufactured toner cartridge is about one-third the cost of a new cartridge, shredded wood costs less than virgin aggregate, plastic lumber avoids the consumption of virgin timber and reduces maintenance cost, and it costs half as much to retread a worn tire as to buy a new one.

The table below estimates the cost savings based on purchase price only, and does not reflect savings in maintenance and installation. Additional examples of savings can be found in Section IV, "Environmental Initiatives of County Agencies," of this report (see page 21).

Commodity	2004 Dollar Savings
Toner Cartridges	450,000
Tire Retreading	340,000
Shredded Wood	75,000
Antifreeze	53,500
Compost	10,500
Plastic Lumber	10,000
Hydrostripping Services	2,000
Air Filter Cleaning	1,000
Total Dollars:	\$942,000

III. Supporting Program Elements

The Environmental Purchasing Program helps agencies develop practical ways to use recycled and other environmentally preferable products and processes through several program elements, detailed in this section.

Agency Liaison Network

The program uses a network of liaisons within agencies to provide users with information on environmentally preferable products and processes. These liaisons allow us to reach the people who do the daily work, and who can help us understand the roles and functions within each unit. This helps us to communicate new evaluation opportunities, institutionalize the routine use of these materials, and share evaluation results and specifications among agencies.

Internet Information Project

The program delivers most of its information, including this report, to clients through email or the Internet.

Website www.metrokc.gov/procure/green

The King County Environmental Purchasing Program has maintained a website **since 1995** as a resource to participants in the King County program as well as others in the community. There were approximately **340,000** visitors to the program website in the past year and a half. Clients visiting this website find information on King County's experience with recycled and environmentally preferable products, specifications, evaluations, contracts, and contact information.

Municipalities and other organizations throughout the nation and the world take advantage of this site and these contacts bring new information that County agencies and others can use as we all develop new applications for recycled and other environmentally preferable products.

In the past year and a half, the program has received comments and questions from:

The Nations of:

Argentina	Canada	Canada: Charlottetown
Canada: Boucherville	Canada: Montreal	Canada: Calgary, Alberta
Canada: Ottawa, Ontario	Canada: Langley, BC	China
China: Jiangyin City	China: Muling City	China: Shanghai
China: Xuanzhou, Anhui	Egypt	France
Germany	India: City of Maharashtra	Israel
Jordan	Kenya	Mexico
Nigeria: Ikeja, Lagos	Nigeria, Lagos Island	Puerto Rico
Scotland: Edinburgh	Spain: Madrid	Trinidad and Tobago
United Arab Emirates	United Kingdom	Vietnam

The States of:

Maryland
Nevada
Oklahoma

Michigan
New Mexico
Pennsylvania

Minnesota
Ohio
Washington

Counties:

Hennepin County MN
Pima County AZ

County of Kauai HI
Sarasota County FL

Pierce County WA

The Cities of:

Arlington VA
Auburn WA
Beverly Hills CA
Carson CA
Columbia MD
Denver CO
Hampton Bays NY
Hackettstown NJ
Kansas City MO
Lake Orion MI
Los Angeles CA
Minneapolis MN
Nashua NH
Pasco WA
Redmond WA
Rising Sun IN
Santa Barbara CA
Sequim WA
Spokane WA
Tolleson AZ
Vancouver WA
Weed CA

Atlanta GA
Bellevue WA
Bradenton FL
Chicago IL
Dallas TX
Glendale CA
Henderson NC
Holtsville NY
Kent WA
Lake Stevens WA
Louisville KY
Moorpark CA
Newport RI
Phoenix AZ
Renton WA
Sacramento CA
Scottsdale AZ
Shoreline WA
Staten Island NY
Tukwila WA
Vero Beach FL
Woodinville WA

Arcata CA
Bellingham WA
Brooklyn OH
Cincinnati OH
Dalton, GA
Gresham OR
Hope Mills NC
Jackson MS
Lake Orion MI
Las Vegas NV
Maumee OH
Nashville TN
New York City NY
Portland OR
Reston VA
San Francisco CA
Seattle WA
Smyrna TN
Studio City CA
Tucson AZ
Washington DC
Yakima WA

Universities/Schools:

Gilan Iran, University of
New Mexico State University
Ryerson University, Toronto, Canada
Tulane University (New Orleans, LA)

Arizona, University of
Rutgers University (New Jersey)
Texas A&M University
Western Kentucky University

E-mail Environmental Purchasing Bulletin

The program began producing an “**Environmental Purchasing Bulletin**” in 1997 to disseminate information about recycled and environmentally preferable products, events, contracts, and other resources. Recipients include participants in the program’s County liaison network, suburban cities, and others across the nation. There are currently **650** direct recipients of this bulletin. Many of these recipients originate their own list-servs and newsletters and forward the bulletin to others by those means. An index and the full contents of past bulletins can be found on the program website at: www.metrokc.gov/procure/green/bulindex.htm.

Bulletins for 2003/2004:

2003 Annual Report

Metro Transit Buys 200 Hybrid Buses

Landscaping/Natural Yard Care

Salvage Building Materials Contract

Metro Transit Buying Biodiesel

"Hall of Fame" WasteWise Award

King County Contract for Remanufactured/New Toner Cartridges

Internet Discussion Groups

We participate in several Internet discussion groups, where we exchange environmental purchasing information with other jurisdictions, many of which now subscribe to our Environmental Purchasing Bulletin. The participants come from across the nation and bring a wide range of experience, which we share with County agencies for evaluation.

- **EPPNET** – Environmentally Preferable Purchasing Network, sponsored by the Northeast Recycling Council (NERC). A discussion group on environmental purchasing issues.
- **Greenyes** – a discussion group on general sustainable issues.
- **Green Building E-Forum** – a discussion group managed by King County Solid Waste Division Green Building Program.
- **Waste Prevention Forum** – a discussion group managed by King County Solid Waste Division, and part of the National Waste Prevention Coalition.

Public Involvement

The King County Environmental Purchasing Program offers its experience in support of the planning, policy-development, and procurement-education activities of local jurisdictions and other organizations.

The program provides technical assistance to, and exchanges information with, suburban

cities in King County, as well as state and federal agencies and other users. In 2004, program personnel participated in the following programs:

- **Computer Working Group, Center for a New American Dream**
Working group hosted by US EPA and facilitated by the Center for a New American Dream. It drafted purchasing guidelines for environmentally preferable computers and electronics. (www.newdream.org)
- **Paper Working Group, Pollution Prevention Resource Center**
Steering committee for a paper-purchasing workshop, to be held in March, 2005, coordinated by the Pollution Prevention Research Center to inform jurisdictions about opportunities to purchase environmentally preferable paper. (www.nwpaperforum.org)
- **Toxics in Products Workshop, King County WasteWise Program**
Collaborated with the King County WasteWise Program to produce a program entitled "Toxics in Products" in May 2004, featuring Alicia Culver, a national environmental consultant.
- **Environmentally Preferable Purchasing Session, Pacific Northwest Pollution Prevention Roundtable**
In March 2004, program staff participated in an all day session on environmentally preferable purchasing in Seattle sponsored by the Pollution Prevention Resource Center (www.pprc.org)
- **Train the Trainer Program, City University New York**
Received a request from the City University of New York to participate in a "train the trainer" program for NIGP, the National Institute of Governmental Purchasing. Program staff could not attend, but will participate in reviewing materials for this program.
- **Videoconference on Green Purchasing, State of Pennsylvania**
In 2004, program staff participated in a two-hour live videoconference in Harrisburg, Pennsylvania. The Professional Recyclers of Pennsylvania (PROP) co-sponsored the event with the Pennsylvania Department of Environmental Protection. (www.proprecycles.org)

Publicity

A key to the success of the King County Environmental Purchasing Program has been the exchange of practical information with other users of these unfamiliar materials. Many of these exchanges have come as a consequence of exposure through national magazines, newspapers, and other publications.

Among the publications which featured the King County Environmental Purchasing Program in 2004:

Sustainable Industries Journal, July, 2004
"Cold patch smoothes the rough"
www.sijournal.com

Government Procurement Magazine, April, 2004

"Establishing Green Purchasing Priorities"

www.govpro.com

LinkUp NewsLink, Spring, 2004

"County support"

<http://dnr.metrokc.gov/swd/bizprog/LinkUp>

National Association of Counties, February, 2004

"Harnessing the Power of Advanced Fleet Vehicles - A Hybrid Electric Vehicle Fact Sheet for Government Officials"

www.newdream.org/procure/hev.pdf

Government Procurement Magazine, February, 2004

"Policy Updates Inspire Environmental Purchasing"

www.govpro.com

Pollution Prevention Northwest, New Year's, 2004

"2003 King County Green Purchasing Report"

www.pprc.org/pprc/pubs/newslets/newyear04.pdf

Sustainable Industries Journal, December, 2003

"King County Environmental Purchasing 2003 Annual Report"

www.sijournal.com

King County Website, November, 2003

"King County honored with Outstanding Leadership in Government Award for Environmental Purchasing"

www.metrokc.gov/exec/news/2003/112003.htm

Pollution Prevention Northwest, October, 2003

"Environmentally Preferable Purchasing (EPP) Programs and Strategies: Integrating Environmental and Social Factors into Procurement Practices"

www.pprc.org/pubs/topics/epp/epp.html

Government Procurement Magazine, October, 2003

"Earth-Friendly 'Green' Procurement Gains Ground"

[www.newdream.org/procure/Government Procurement - October 2003.pdf](http://www.newdream.org/procure/Government%20Procurement%20-%20October%202003.pdf)

Center for a New American Dream, Summer, 2003

"King County Selected to Lead National Cooperative Purchase of Hybrid Vehicles"

www.newdream.org/procure/hevproj.html

Awards

EPA WasteWise Award (2003 and 2004)

The Environmental Purchasing Program collaborated with the Solid Waste Division and many other County agencies toward the achievement of these awards, given by the WasteWise Program of the United States Environmental Protection Agency. In 2003, King County was recognized as Local Government “Partner of the Year”, and in 2004, became the first municipal member of the Waste Wise “Hall of Fame” (www.epa.gov/wastewise/about/winners.htm). In addition to the WasteWise awards, King County Executive Ron Sims held special recognition events for those personnel and businesses honored by the WasteWise award.

For more information about King County's WasteWise Program, visit the website at: www.metrokc.gov/dnrp/swd/about/waste-wise.

Department of Executive Services Director’s Awards (2003 and 2004)

Environmental Purchasing Program staff received special recognition from the Director of the Department of Executive Services for contributing to the Wastewise program awards and for the ongoing work of the Environmental Purchasing Program.

Model Procurement Policy

Program personnel continued to promote the development of recycled and environmentally preferable procurement policies in suburban cities by providing policy guidance, including a model policy, through its website. The model was revised in 1997 to broaden the range of environmentally preferable products, beyond recycled content. Program personnel also provide direct technical assistance to suburban cities for policy implementation, including sharing contracts, specifications, and procurement strategies. According to the Solid Waste Division, twenty-one cities have adopted policies, based on King County’s model, since 1992.

Allied King County Programs

Many King County programs offer information and technical assistance to help citizens, businesses and County agencies find ways to help improve their environmental performance. The Environmental Purchasing Program has collaborated with the following programs for the dissemination of information in 2004:

WasteWise, Solid Waste Division:

Provided assistance to program staff and contributed to the program’s annual report and Co- hosted the "Toxics in Products" workshop for King County employees.

www.metrokc.gov/dnrp/swd/about/waste-wise

Green Building, Recycling and Environmental Services, Solid Waste Division:

Presented information to the “Green Team,” and contributed to regular Green Team meetings, workshops and field trips.

www.metrokc.gov/dnrp/swd/greenbuilding

Integrated Pest Management (IPM), Hazardous Waste Management:

Contribute to regular meetings.

www.govlink.org/hazwaste/interagency/ipm

LinkUp, Solid Waste Division:

Presented procurement procedures to LinkUp business partners.

<http://www.metrokc.gov/dnrp/swd/LinkUp>

Roads Engineering, Department of Transportation:

Provided assistance to their internal EPP/sustainable practices work program.

Emissions Inventory/Air Quality project, Department of Natural Resources and Parks

Provided assistance to program staff to update the County's emissions inventory report.

<http://dnr.metrokc.gov/dnrp/air-quality/inventory.htm>

IV. Environmental Initiatives of County Agencies

The King County Environmental Purchasing Program helps County agencies find ways to use environmentally preferable products and processes in their work. This section contains information about the results of several environmental initiatives by which County agencies are saving money and resources, including green building, waste reduction and recycling, air quality and energy and water conservation.

Green Building

Green Building Program, Solid Waste Division, Department of Natural Resources & Parks

The Green Building Program produced its second annual report in 2003. Reported accomplishments include the completion of King County's first LEED (Leadership in Energy and Environmental Design) registered building – The Kent Pullen Regional Communications & Emergency Coordination Center (certified rating pending.) In addition, four County projects were registered for LEED certification.

King County adopted its Green Building Initiative in 2001. This initiative created an interagency Green Team and adopted the LEED rating system developed by the US Green Building Council as a standard for all buildings the county constructs, remodels, and renovates. An updated ordinance is currently being reviewed, and is expected to be adopted in early 2005.

In 2004, King County's first green building project, the King Street Center built in 1999, before LEED was established, was certified "Gold" under a new LEED – EB category for existing buildings. The King Street project was recognized for innovative building features including substantial water conservation, reduced carbon dioxide emissions, energy savings and an exemplary recycling program. Learn more about this project through a virtual tour at: http://dnr.metrokc.gov/dnrp/ksc_tour.

For more information about King County's Green Building Program visit the website: <http://www.metrokc.gov/dnrp/swd/greenbuilding>.

Waste Reduction and Recycling

King County WasteWise Program, Solid Waste Division

The Solid Waste Division maintains King County's membership in the EPA WasteWise program, which measures waste reduction, recycling, and buying recycled and green building efforts in the County. This year the EPA named King County to the national *Waste Wise Hall of Fame*. Out of 1,500 businesses and agencies in the nation that are WasteWise members, only five are in the Hall of Fame, and King County is the first and only government agency in this class. For more information, please read the press release "EPA inducts King County into WasteWise Hall of Fame" at: <http://dnr.metrokc.gov/dnrp/press/2004/1103wastewise.htm>.

Salvaged Building Materials Contract

King County government agencies now have a new tool to prevent waste and reduce disposal costs, thanks to the King County WasteWise Program and to Facilities Management and others. King County signed an agreement with a non-profit used building materials store in Seattle to pick up reusable building materials that would otherwise go to the landfill from King County internal construction, renovation and demolition projects. For more information, please visit the website at: www.metrokc.gov/procure/green/bul86.htm.

Wood Chips from Winter Debris, Operations Section, Road Services Division

The winter of 2003 left 40,000 cubic yards of trees, limbs and stump debris from the wind and ice storms and floods that tore through the county. This expensive clean-up led the county to invest in “HogZilla” – a hydraulic-coupling tub grinder that weighs more than 60,000 pounds – to chip away at this debris. The resulting wood chips were used for county construction projects, erosion control and landscaping.

For more information, please see the press release, “County's monster HogZilla chomps away at debris” at: <http://www.kingcountyjournal.com/sited/story/html/158438>.

Mercury Switch Removal from Vehicle Fleets

The King County Local Hazardous Waste Management Program (LHWMP) partnered with fleets in the County to remove (and/or replace) mercury-containing light switches from hoods and/or trunks of fleet vehicles. Seven public fleets and one private fleet removed mercury switches for proper disposal in 2004. Additionally, LHWMP plans to implement a switch removal program for end-of-life vehicles to capture a larger part of the mercury that is landfilled and/or released during scrap reprocessing. For more information, please visit the website at: www.metrokc.gov/dnrp/swd/facilities/mercury.asp.

Biosolids Recycling, Wastewater Treatment Division

Twice recognized as the best operating biosolids program in the country, King County recycles a high-quality biosolids that benefits soils and crops in eastern and western Washington. King County is among the first agencies certified into the Environmental Management System for biosolids and awarded the National Biosolids Partnership seal of approval.

King County's biosolids program is used as a model throughout the nation and has won numerous awards for its innovative and environmentally sensitive operations. Best management practices, developed in conjunction with the University of Washington and Washington State University, protect both public health and the environment. For more information, please visit the website at: <http://dnr.metrokc.gov/WTD/biosolids>.

Brightwater Treatment System, Wastewater Treatment Division

King County is designing and constructing a new regional wastewater treatment plant, conveyance tunnels and a marine outfall, called Brightwater, in response to growth in our region. Construction is scheduled to begin in 2006, and the plant is expected to begin operations in 2010. The treatment plant site is 114 acres, located in Woodinville and will include approximately 20 new structures, which will provide state of the art wastewater treatment, administrative offices, and a maintenance facility and as a proposed mitigation measure a community/educational facility. Many of these buildings will follow the US Green Building Council's LEED rating system guidelines, supported by King County's Green Building Ordinance, and several will be registered projects. For more information, please visit the website at: <http://dnr.metrokc.gov/WTDBrightwater>.

Air Quality

Hybrid Buses, Metro Transit, Department of Transportation

King County Metro Transit unveiled the largest U.S. fleet of 235 60-foot hybrid buses in May, 2004. The new buses operate with a blended hybrid diesel-electric system built by General Motors, and they are expected to benefit local air quality, reduce maintenance costs, and **save 350,000 gallons of fuel a year**. They have been purchased by Metro (213 hybrids) and Sound Transit (22 hybrids) to replace the aging buses now operating on routes using the downtown transit tunnel. For more information, please visit the website: <http://transit.metrokc.gov/am/vehicles/hy-dieselrollout.html> and www.metrokc.gov/exec/news/2004/1213bus.htm.

Biodiesel, Metro Transit, Department of Transportation

At the end of 2004, King County Metro Transit began a biodiesel pilot program that will make the fleet of buses even cleaner and will help bring to Washington the first in-state commercial-scale production of biodiesel fuel made from seed crops. "Metro Transit's commitment to piloting the use of biodiesel will make it the single largest user of the fuel in the State of Washington which will, in turn, significantly increase markets for this clean burning alternative to fossil fuel," said King County Executive Ron Sims.

As part of a Seattle City Light greenhouse gas mitigation program, Metro has committed to using a five percent blend of biodiesel (B5) to help power its fleet of more than 1,200 diesel buses over the next two years. The fuel will be blended with Ultra Low Sulfur Diesel, which will reduce greenhouse gases and improve on the 90 percent reduction in tailpipe emissions the agency has already achieved.

Metro anticipates it will cost about 6.3 cents per gallon more to use a five percent blend of biodiesel as compared to the cost of a gallon of pure Ultra Low Sulfur Diesel the fleet currently uses.

Over the next two years, Seattle City Light and King County will monitor the program

and document actual reductions in greenhouse gas emissions tied to Metro's use of the biodiesel. In addition, other King County fleets are following suit and will use the B5 blend of biodiesel. For more information, please see the press release at: www.metrokc.gov/kcdot/news/2004/nr041026_biodiesel.htm.

Clean Air Initiative and Emissions Inventory Report

Department of Natural Resources and Parks

In January 2002, King County adopted a "Clean Air Initiative." This initiative called for an inventory of King County's year 2000 greenhouse gas emissions to identify the activities that produce the largest emissions. The 2000 and 2003 inventories have been completed. The main purpose of these inventories is to monitor the county government's emissions of greenhouse gases and common air pollutants and implement improvements. Concern about global climate effects has driven changes already taking place in the County, such as the purchase of hybrid vehicles and buses, the installation of particulate traps on existing county buses, the conversion of diesel fuels to ultra-low-sulfur grade and the purchase of biodiesel.

Visit the King County Clean Air Library website for links to the Inventory reports and the Clean Air Initiative Executive Order: <http://dnr.metrokc.gov/dnrp/air-quality/inventory.htm>.

Energy and Water Conservation

Fuel Cell Technologies, Wastewater Treatment Division

Construction is now complete on a 1 megawatt fuel-cell power-plant demonstration project at King County's South Treatment Plant in Renton, Washington. This is the nation's largest molten carbon fuel cell, powered by methane gas from wastewater. This fuel cell will create cleaner air, reduce power costs, and establish a national model for other utilities. More information about the fuel cell project is available on the website at: <http://dnr.metrokc.gov/wtd/fuelcell>.

Landfill Gas to Energy

The Solid Waste Division (SWD) has embarked on a new project to convert gas produced by the Cedar Hills Regional Landfill into electricity for use in the region. Conversion of landfill gas to energy saves money and creates electricity. In addition to the \$400,000 generated through the sale of gas, the county expects to save \$80,000 annually in energy costs because the landfill's gas collection system will be powered with energy from the new plant instead of energy King County now purchases on the open retail market.

Please visit the project website at: www.metrokc.gov/dnrp/swd/about/landfill%2Dgas/ or read the press release at: <http://dnr.metrokc.gov/dnrp/press/2004/0120landfill.htm> for more information.



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Cover: 80# Cover, 30% post-consumer recycled content



King County

Environmental Purchasing Program
www.metrokc.gov/procure/green